What is claimed is:

1. A method of exchanging data between a wired network and a wireless network, comprising the steps of:

a) providing at least two data links between said networks;

b) measuring impedance on each data link; and

c) transmitting said data across the data link having the lowest impedance.

2. A method as defined in claim 1 wherein said data links are wireless.

3. A method as defined in claim 1 wherein a first of said data links is established on a Spread Spectrum band.

4. A method as defined in claim 1 further comprising the step of:

d) providing each of the networks with an IEEE 802.11 node, wherein one of said data links is established therebetween.

5. A method as defined in claim 1 wherein one of said data links is a satellite RF packet network.

6. A method as defined in claim 1 wherein one of said data links is a terrestrial RF packet network.

7. A communications system, comprising

a mobile communications network having a mobile node,

a fixed communications network having an access point,

a pair of alternative data links, each of which joins said mobile node with said access point, and

a switching unit for switching between said alternative data links to exchange data between said mobile node and said access point.

8. A method as defined in claim 7 wherein said node is Internet addressable.

9. A system as defined in claim 7, further comprising a measuring module for measuring impedance on each of said data links, said switching unit being operable to select the data link having the least impedance.

10. A system as defined in claim 7 wherein both said mobile node and said access point include IEEE 802.11 nodes.

11. A system as defined in claim 7 wherein said mobile communications network includes a plurality of mobile nodes.

12. A system as defined in claim 10 wherein each of said mobile nodes is on a vehicle.

13. A system as defined in claim 7 wherein said fixed communications network includes a plurality of access points, wherein said data link joins each mobile node with at least one access point.

14. A system as defined in claim 13 wherein some of said access points are located adjacent a roadway.

15. A system as defined in claim 12 wherein each mobile node is Internet addressable.

16. A system as defined in claim 12 wherein each mobile node is IPv6 addressable.

17. A communications network for exchanging data between a plurality of vehicles, comprising a computing unit onboard a corresponding vehicle, each computing unit operable in a first phase to broadcast enquiry messages in a region surrounding said vehicle, a second phase to receive reply messages from other vehicles in said region, a third phase to exchange status messages with selected ones of said other vehicles.

18. A network as defined in claim 17 wherein each computing unit includes an IEEE 802.11 node.

19. A network as defined in claim 18 wherein each computing unit exchanges data using an SNMP-derived protocol.

20. A network as defined in claim 18 wherein each node is Internet addressable.

21. A vehicle comprising an onboard computing unit which is operable in a first phase to broadcast enquiry messages in a region surrounding said vehicle, a second phase to receive reply messages from computing units of other vehicles in said region, a third phase to exchange status messages with computing units of selected other vehicles.

22. A vehicle as defined in claim 21 which is operable in a fourth phase to exchange data with a remote site.

23. A vehicle as defined in claim 21 wherein the remote site is a network gateway, which routes communications between a wireless mobile data link and a non-mobile network.

24. A vehicle as defined in claim 21 wherein said computing unit includes an IEEE 802.11 node.

25. A vehicle as defined in claim 24 wherein said computing unit is capable of exchanging data using an SNMP protocol.

26. A hybrid communications system, comprising a wired network portion and a wireless network portion, each having a network connection node, at least two data link means between the network connection nodes, and a switch means for enabling either of the data links for data exchange between said connection nodes.

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27. A system as defined in claim 26 further comprising measurement means for measuring impedance on said data links, said switch means being responsive to said measurement means for enabling the data link having a lower impedance.

28. A vehicle communications system having a controller, a data pathway joining said controller with a plurality of vehicle components and means for establishing a data link with other vehicles within a given region surrounding said vehicle in order to exchange data therewith.

29. A system as defined in claim 28 wherein said data link is operable in the Spread Spectrum band.

30. An operational event-reporting system for use by a plurality of neighboring vehicles to support IVHS comprising a plurality of communication units, each onboard a corresponding vehicle to collect operational data from selected components thereof and to exchange data with the communication units of one or more of the neighboring vehicles.

31. A system as defined in claim 30 wherein the communication units broadcast messages on a Spread Spectrum band.

32. A method of exchanging data between a vehicle and at least one data exchange site, comprising the step of providing the vehicle with a transmitter and receiver capable of transmitting and receiving messages under the SNMP protocol.

33. A method as defined in claim 32 wherein the at least one data exchange site includes a neighboring vehicle.

34. A method as defined in claim 33, further comprising the steps of:

- exchanging discovery signals with neighboring vehicles; and

- exchanging status data with selected ones of the neighbouring vehicles.

35. A system for transferring data between a vehicle and another data exchange site, comprising a pair of data link means, wherein at least one of said data link means has a varying signal impedance level and switch means for switching between said data link means so that said data is transferred on the data line means having the least impedance.

36. A system as defined in claim 35 wherein a first of said data link means is operable in the Spread Spectrum band.

37. An extension of the hybrid RF packet network comprising:

(i) an interface to an IEEE 802.11 data link integrated in the Hybrid Network Radio;

(ii) an IEEE 802.11 Access Point acting as an IPv6 router and a foreign mobility agent for mobile nodes implementing Mobile IP;

(iii) an interface to a non-wireless subnetwork from which the Hybrid Network Gateway can route mobile-terminated traffic through an IEEE 802.11 Access Point; and

(iv) a cluster intelligence module, based on the establishment of ad-hoc networks between a vehicle and its IEEE 802.11 neighbors.

38. The system according to claim 37, wherein mobile nodes that are ATP-enabled can exchange Internet traffic with regulatory agencies over license-free wireless data links (IEEE 802.11) whenever connections are established with Mobile IP-enabled Access Points.

39. The system according to claim 38, wherein the cluster intelligence module is operable using ATP from vehicular node to acquire information about the automotive behavior of any of its discovered neighbors.